The Role of Discourse Connectives for Reading Comprehension Skills of French-speaking Teenagers

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Research Questions

Discourse connectives are lexical items that make explicit the coherence relations linking units of text or discourse, such as cause or concession (e. g. Sanders et al., 1992). Connectives play a crucial role for successful verbal communication, as their adequate use helps adult readers with discourse processing and comprehension (e. g. Canestrelli et al., 2013). Connectives are, though, particularly difficult to master for children acquiring their first language (e. g. Pyykkönen & Järvikivi, 2012). However, little is known about the acquisition of connectives during teenager years.

In this thesis we will investigate the factors limiting the ability of French-speaking teenagers to understand and process connectives by trying to answer three following questions:

1. What is the role of word frequency and cognitive complexity in the ability of French-speaking teenagers to understand connectives used in the written mode?
2. What are the differences in the processing and understanding of implicit vs. explicit coherence relations?
3. What are the differences in the processing and understanding of embedded vs. non-embedded coherence relations?

Previous Research

Adults (18+)

Usage

While adults all master connectives frequently used in speech, children start producing connectives many years before they fully master them in comprehension tasks (McClure & Geva, 1983).

Processing

Explicit vs. Implicit Coherence Relations

When sentences are linked by a connective, the second segment is read faster than when the relation is conveyed implicitly (Sanders & Noordman, 2000). This effect has been interpreted as an indication that connectives make it easier for an adult reader to link the second segment to the first one.

Positive vs. Negative Coherence Relations

- Positive coherence relations facilitate the processing of the upcoming segment (Sanders & Noordman, 2000) and are processed faster than negative (Morera et al. 2017).
- Adult readers remember with more difficulty sentences that contain negative relation (e. g. the concessive connective *but*) compared to positive relation (e. g. the causal connective *because*) (Caron et al., 1988) and have more difficulties filling in blank slots between sentences when a negative relation is involved (Goldman & Murray, 1992).

Children (0-12)

By the age of 8, children read faster two sentences that are related by an appropriate connective (Cain & Nash, 2011) as well as texts preceded by a connective (Mouchon, Fayol & Gaonac'h, 1995) rather than the same sentences or texts not related by a connective at all.

Children understand connectives encoding positive coherence relations (such as cause and addition) better compared to connectives encoding negative relations (such as concession and contrast) in off-line measures of comprehension (Geva, 2006).

Factors that could account for the differences in the way positive and negative relations are processed:
Cognitive complexity and Frequency

What about teenage years?

My Thesis

The main objective of my work will be to fill a current gap in literature on the usage and processing of discourse connectives between studies with younger children and studies with adults, since it is during this period that teenagers progressively acquire an adult-like ability to understand and produce connectives.

3 sets of experiments focusing on:

1. roles of **word familiarity** and **cognitive complexity** as factors influencing the ability to understand connectives used in the written mode;
2. processing and understanding of **implicit** coherence relations;
3. processing and understanding of **embedded** coherence relations.

Title Recognition Test in French

Description

This test measures a degree of **exposure to print** which is linked to several linguistic competences:

- Sentence processing ability (Acheson, Wells, & MacDonald, 2008);
- Vocabulary and world knowledge (Stanovich, West, & Harrison, 1995);
- Orthographic competence (Stanovich & West, 1989).

Materials and Design

The List. The test is an adapted version of Author Recognition Test by Zufferey & Gygax (2019) and includes a list of 20 real book titles and 20 invented ones. This list is based on the best sellers among the teenagers of 12 to 18 year-old.
The Task. Participants' task is to select only those titles that they know. They will be told in advance that some titles correspond to real books and some do not.

Experiment 1

Participants

120 French-speaking teenagers

Number	Age	School Level
30	12	End of primary school
30	14	Secondary school
30	16	Beginning of high school
30	18	End of high school
30	>18	University (control group)

Procedure and design

Participants will be given 2 tests to assess their usage and comprehension of connectives in the context of a phrase (Experiment 1a) and of a text (Experiment 1b). All participants will be given a paper version of the tests.
Tested coherence relations: negative relations (*cependant, néanmoins*), positive relations (*aussi, en effet*).
Duration: 30 minutes per session. The 2 sessions will be separated by a three-weeks pause.

Materials

Experiment 1a. Usage and Comprehension of Connectives in a Phrase.

Participants read two discourse segments related by a blank line and have to insert the correct connective among a choice of four possibilities.
Example for the connective *aussi*.
(1) Marie est partie bien en avance, _____ elle n'est pas arrivée en retard à son cours.
Marie had left much in advance. _____ *she was not late for her class.*
Choice of connectives: aussi, cependant, en revanche, en outre.

Experiment 1b. Comprehension of Connectives in a Text.

Participants read expository texts containing 4 connectives and after answer the questions targeting the coherence relations used there. The participants are separated into 2 groups: the first one reads texts with the connectives mostly bound to the written mode (*cependant, néanmoins, en effet* and *aussi*) and the second one reads those containing their equivalents which are mostly used in oral mode (*mais, par contre, parce que* and *du coup*).
Example for the connectives *cependant* (Group 1) and *mais* (Group 2).

(2) On imagine souvent l'archéologue en train de creuser la terre sur un chantier pour mettre au jour des vestiges du passé. **Cependant** (for Group 1)/**Mais** (for Group 2) son travail ne s'arrête pas là : pour étudier les objets trouvés, il utilise de plus en plus souvent les nouvelles technologies.

Aujourd'hui, le travail d'un archéologue implique l'utilisation des nouvelles technologies.

Selon ce que tu as lu dans le texte, cette affirmation est …

○ très fausse ○ assez fausse ○ un peu fausse ○ un peu vraie ○ assez vraie ○ très vraie ☐ ce n'est pas dit dans le texte

Hypothesis

- Overall cognitive complexity will play a lesser role compared to word frequency.
- The effect of cognitive complexity will diminish with age while word frequency should remain the most relevant factor to explain individual variations even among 18-year-olds.
- On average, the texts with connectives frequently used in speech will trigger higher comprehension scores.

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